In the Claims

Amend the claims as follows.

- 1. (Twice Amended) A method for detection of at least one coding region allele of a multi-allelic genetic locus comprising:
 - a) amplifying genomic DNA with a primer pair that spans a non-coding region sequence, said primer pair defining a DNA sequence which is in genetic linkage with said genetic locus and contains a sufficient number of non-coding region sequence nucleotides to produce an amplified DNA sequence characteristic of said allele; and
 - b) analyzing the amplified DNA sequence to detect the allele.

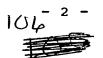
(Three Times Amended) A method for detection of at least one allele of a multi-allelic genetic locus comprising:

- a) amplifying genomic DNA with a primer pair that spans a non-coding region sequence, said primer pair defining a DNA sequence which is in genetic linkage with said allele and contains a sufficient number of non-coding region sequence nucleotides to produce an amplified DNA sequence characteristic of said allele; and
- b) analyzing said amplified DNA sequence to <u>determine</u>
 [detect] the presence of a genetic variation in said
 amplified sequence to <u>detect the allele</u>.
- (Amended) A method for producing RFLP patterns for an HLA locus of an individual comprising the steps of:
- a) amplifying HLA DNA from said individual with a primer pair specific for said HLA locus under conditions suitable to produce an amplified DNA sequence, primer sites for said primers being located in intervening sequence I and in intervening sequence III when said HLA locus is a Class I locus and in intervening

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sequence I and in intervening sequence II when said locus is a Class II locus;

- producing a digest by combining said amplified DNA b) sequence with at least one endonuclease that cleaves said amplified DNA sequence to yield a set of fragments having distinctive fragment lengths; and
- C) producing RFLP patterns from said digest.

(Amended) A method for determining whether DNA in a sample is from a particular individual comprising the steps of:

- a) amplifying DNA from said individual and DNA from said sample with a primer pair specific for an HLA locus under suitable conditions to produce an amplified DNA sequence from said individual and from said sample, said primers being located in intervening sequences I and III for an HLA Class I locus and in intervening sequences I and II for a Class II locus;
- b) combining said amplified DNA sequence from said individual and said amplified sample DNA from said sample with at least one endonuclease that cleaves said amplified DNA sequence into a plurality of cleaved sequences of sufficiently different lengths to distinguish between alleles of said HLA locus for a period of time sufficient for digestion of said amplified DNA to produce a digest; and
- C) comparing restriction fragment length polymorphic patterns produced by said digest from said individual and from said sample to determine whether DNA in the

v sample is from the individual.

(Amended) A[n improved] DNA analysis method for determining [in which] coding region alleles of a multiallelic genetic locus <u>comprising</u> [are determined by] identifying sequence polymorphisms characteristic of the alleles, wherein said [the improvement comprising

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identifying] sequence polymorphisms characteristic of the alleles are present in a non-coding region sequence, said non-coding region sequence being not more than about two kilobases in length.

Add the following claims.

1417. A method for producing RFLP fragments characteristic of alleles of an HLA locus of an individual comprising the steps of:

- a) amplifying genomic HLA DNA from said individual with a primer pair specific for said HLA locus under conditions suitable to produce an amplified DNA sequence; and
- producing a digest by combining said amplified DNA (ď sequence with at least one endonuclease that cleaves said amplified DNA sequence to yield a set of fragments having distinctive fragment lengths.

The method of Claim 17 additionally comprising the step of producing RFLP patterns from said digest.

The method of Claim 1/2 wherein said primers define a DNA sequence that contains all exons that encode allelic variability associated with said HLA locus.

A method for producing RFLP fragments for an HLA locus of an individual comprising the steps of:

- amplifying genomic HLA DNA from said individual with a) a primer pair specific for said HLA locus under conditions suitable to produce an amplified DNA sequence, said primers defining a DNA sequence that contains all exons that encode allelic variability associated with said HLA locus; and
- producing a digest by combining said amplified DNA b) sequence with at least one endonuclease that cleaves said amplified DNA sequence to yield a set of fragments having distinctive fragment lengths.

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